

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/798,574	KIM, HOON	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thomas L. Dickey	2826	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to amendment after final filed 8/28/26.
2. ☒ The allowed claim(s) is/are 1,5-13,15,16,21 and 22.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date <u>11/01/04</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
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## **REASONS FOR ALLOWANCE**

### ***Rejoinder***

1. In accordance with the principle set forth in *In re Ochaia*, 71 F.3d 1565, 37 USPQ2d 1127 (Fed. Cir. 1995), withdrawn process claims 7-12 are hereby rejoined and allowed. See MPEP § 821.04.

It is noted that, even though independent claim 1 recites a specific product, claims 7-12 for the method of making the product of claim 1 in a particular manner are proper dependent claims since claims 7-12 could not be infringed without infringing claim 1. See MPEP 608.01(n), section III.

### ***Reasons for Allowance***

2. The following is an examiner's statement of reasons for allowance:

Claims 1,5-13,15,16,21, and 22 are allowed over the references of record because none of these references disclosed or can be combined to yield the claimed invention such as a thin film transistor, comprising a buffer layer; an activation layer formed on said buffer layer; and a gate insulation layer formed on said buffer layer and said activation layer, with said buffer layer having a step formed between a lower part of said activation layer and a part except said lower part of said activation layer, said step being up to a half of the thickness sum of said activation layer and gate insulation layer; and said step being controlled according to said gate insulation layer being "deposited to an

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even thickness" (CLAIM 13), or "not changed" (CLAIM 1) on a side wall of said activation layer, as recited in claims 1 and 13.

Applicant's claims 1 and 13 recite the limitation of the "gate insulation layer being deposited to an even thickness" on a side wall of said activation layer." "Even," and "not changed," mean, "neither reduced nor increased," in this context. In paragraph 0008 and figure 2 of the instant application Applicant teaches us to measure the "evenness" of the gate insulation 130 on activation layer 120 sidewall by comparing a horizontal thickness of gate insulator 130 at point B1 to a horizontal thickness of gate insulator 130 at point B2. In figure 2 the thickness at B2 is less than the thickness at B1, so that, in Applicant's words, the "thickness of the gate insulation layer on the side wall of the activation layer is reduced." The invention Applicant claims in claims 1 and 13 is one in which the gate insulation thickness at B1 is the same as at B2, yielding an "even" sidewall thickness that is "not changed." An eyeball approximation of the relative B1 and B2 thicknesses of gate insulation film 65 of Adachi et al. 5,985,704's figure 6B leads one to the conclusion that gate insulation film 65 at least appears to have an even thickness. However, Adachi et al. do not identify figure 6B as drawn to scale. Adachi et al.'s specification is completely silent on the issue of whether gate insulation film 65 is of even thickness on the side of activation layer 64. For this reason there is no evidence that the device of Adachi et al. includes the "even" or "not changed" gate insulator sidewall thickness limitations of claims 1 and 13. See MPEP §2125.

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The purpose of the limitations on buffer layer step thickness in the present invention is identical to the same limitations on buffer step thickness in Adachi et al.'s disclosure. In Applicant's words, a "short can be generated between the activation layer and gate electrode as thickness of the gate insulation layer is reduced," which the thinner step can prevent. In Adachi et al.'s words, "since there is little [step-forming] overetching at an edge of the silicon island, the gate electrode can be prevented from being broken." In this regard Applicant's and Adachi's inventions are identical. The difference lies in that Adachi et al. do not care how evenly distributed the gate insulator thickness is as long as it is thick enough everywhere to prevent a short. Applicant's invention, as claimed, will supply a gate insulator thickness that may not be thick enough anywhere to prevent a short, but that will necessarily have the same thickness everywhere on the active layer sidewalls.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

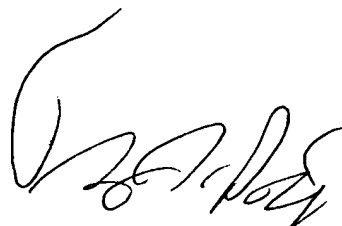
### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L Dickey whose telephone number is 571-272-1913. The examiner can normally be reached on Monday-Thursday 8-6.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Thomas L. Dickey', is positioned above the printed name.

**Thomas L. Dickey**  
**Primary Examiner**  
**Art Unit 2826**